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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

# Office Action Summary

## Application No.

10/014,179

## Applicant(s)

DIMITROVA ET AL.

## Examiner

SAHAR A. BAIG

## Art Unit

2424

**Period for Reply** -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 02 June 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1, 3-8, 10-34 and 36-40 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1, 3-8, 10-34, and 36-40 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/S508)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Response to Arguments***

1. Applicant's arguments filed 06/02/2009 have been fully considered but they are not persuasive. On Page 9 of 14, Applicant argues that there is no apparent reason to combine Zawlinski, Hoffberg, and Strubbe. Examiner respectfully disagrees. The combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results. Furthermore, if a person of ordinary skill can implement a predictable variation, 103 likely bars its patentability. Applicant also states that the Zawlinski reference lacks providing descriptive information for each of the television commercials so that an association of the user's reaction with such descriptive information can be defined. In response, Examiner would like to point to Col. 5 lines 34-43 of Zawlinski where it is taught that there exists a system for associating a plurality of semantic descriptors (descriptive information) with each of a plurality of emotional responses of a human (user's reaction) at a given moment over a preselected time period during the presentation of a stimulus (each television commercial).

Regarding Hoffberg's teachings, Applicant argues that an association between the user's current mood and a current input stimulus is not taught. This is shown in Col. 65 lines 50-55 *[An example of an implicit input is an observation of a man-machine interaction, such as a video game. The manner in which a person plays a video game or*

*otherwise interacts with a machine may provide valuable data for determining a mood or preference].*

As for the reason one of ordinary skill in the art would create an association between an emotional response and descriptive information related to a stimuli that produces the emotional response, Zawilinski discloses that the object of his invention is to aid in the field of research such that the data collected is used to make recommendations. [Col. 1 lines 5-15 and Col.3 lines 20-22].

### ***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claim 1-8, 10-30, 36, 39, and 40 rejected under 35 U.S.C. 103(a) as being unpatentable over Zawilinski, U.S. Patent No. 5,676,138, in view of Hoffberg et al., U.S. Patent No. 6,400,996 in further view of Strubbe U.S. Patent No. 5,483,278.

Regarding claim 1 and 40, Zawilinski discloses a multimedia system comprising an emotional response analyzer. The system further comprises sensors for sensing the user's physical reactions (i.e., gaze, galvanic skin response, etc.) to various stimuli, including commercials, wherein said stimuli are associated with recognizable emotional responses (i.e., surprise, anger, disgust, etc.). Moreover,

this information can be indexed and associated with whatever stimuli were being displayed at the time of said response. (Fig. 1 & 2; Abstract; Col. 1, Ln. 6-47; Col. 3, Ln. 39-Col. 4, Ln. 47; Col. 5, Ln. 34-43, 63-Col. 6, Ln. 26, 35-Col. 7, Ln. 5; Col. 9, Ln. 50-64).

But, Zawilinski fails to disclose a microphone picking up vocalizations made by the user. In an analogous art, however, Hoffberg discloses using biometric sensor data to create a dynamic user preference profile, wherein voice patterns of the user are detected and associated with a recognizable emotional response (i.e., moods; col. 116, 11. 3-14, col. 61, 11. 14-30, col. 65, U. 23-55; a microphone, or electro-acoustic transducer, is inherently present in where an acoustic signal (i.e., voice) is interpreted by an electrical device). Thus, it would have been obvious to one having ordinary skill in this art at the time of Applicant's invention to modify the at least one sensor of Zawilinski to include a microphone for picking up vocalizations, as taught by Hoffberg, to provide additional physiological data from which the user's preferences can be inferred. Hoffberg also teaches a memory device for storing the association between the programming description and sensed reaction as the viewer preference (see Hoffberg, col. 113, lines. 47-66). Furthermore, Hoffberg discloses of a recommender that is configured to recommend subsequent programs based on the viewer preferences (col. 65 lines 16-22; *The system provides an intelligent, adaptive pattern recognition function in order to recommend programs to the user based on the user input, a past history of use, and a context of use.*) Therefore it

would have been obvious to one of ordinary skill in the art to combine the teachings of Zawilinski and Hoffberg so that physiological data from which user's preference is inferred can be used to provide recommendations to the user based on viewer preferences.

The combined teachings of Zawilinski and Hoffberg fail to properly teach of a monitoring system that monitors subsequent programs which become available to be displayed and a system for notifying and/or presenting a subsequent program based on the viewer preference. In an analogous art, Strubbe discloses a recommendation system which uses collected information about users to recommend programs. In particular Strubbe teaches of a monitoring system that monitors subsequent programs which become available to be displayed and a system for notifying and/or presenting a subsequent program based on the viewer preference (see Strubbe Col 2 lines 41-47). Therefore it would have been obvious to one of ordinary skill in the art to combine the teachings of Strubbe with Zawilinski and Hoffberg to devise a recommender system capable of suggesting subsequent programs for the benefit of aiding in the selection of user preferred programming.

Claims 34 and 39 are encompassed within the rejection of Claim 1. Thus, it is analyzed and rejected as previously discussed.

As to claim 2, Zawilinski and Hoffberg together disclose the claimed memory device (see Hoffberg, col. 113, U. 47-66).

As to claim 3, Zawilinski further discloses the system comprises a plurality of sensors. (Col. 6, Ln. 3-26).

As to claim 4, Zawilinski further discloses the claimed sensor-signal receiver (rigA, item 18; col. 6, 11. 27-35).

As to claim 5, Zawilinski further teaches the system can analyze various physiological data including heart rate, galvanic skin response, etc. (i.e., aggregation of signals; see Zawilinski as applied to claim 1, above).

As to claims 6-8, Zawilinski and Hoffberg together disclose the use of a camera (video pattern recognition; Hoffberg, col. 116, 11.3-14) and video recorder recording images captured by the camera to an image library for comparing to video images received from the camera (internal database; Hoffberg, col. 59, 11. 33-61).

As to claim 10, Hoffberg, further discloses the system comprises an

environmental sensor for sensing a change in the viewing environment, as claimed (col. 127, U. 5-40).

Regarding claim 11, Zawilinski and Hoffberg together disclose the claimed subject matter. (See the rejection of claim 1; Hoffberg discloses determining when a program segment is being received that corresponds to a pre-selected viewer response previously associated with a physical condition status (i.e., user's mood; col. 116, 11. 3-14, 33-49, col. 118, 11. 27-43).)

As to claim 12, Zawilinski and Hoffberg together disclose monitoring a plurality of viewer physical conditions (Zawilinski, col. 6, 11.3-26).

As to claim 13, Zawilinski further teaches the system can plot various stimuli changes over time (i.e., changes in condition relative to a baseline level). (Col. 9, Ln. 12-20).

As to claim 14, Zawilinski and Hoffberg together disclose the claimed subject matter. In particular, Hoffberg discloses the physical condition is body temperature (col. 61, n. 13-30).

As to claim 15, Zawilinski further teaches the system can analyzed the heart rate of a user. (see rejection of claim 1).



As to claims 16 and 17, see the rejection of claims 6-8, above.

As to Claim 18, Zawilinski and Hoffberg together disclose the claimed subject matter. In particular, Hoffberg discloses determining characteristics of a displayed programming segment, associating a viewer response corresponding to a physical condition with a viewer preference level, and applying the preference level to enhance program selection (col. 100, 11. 2-51, col. 116, 11. 33-49, col. 118, 11. 21-43).

As to claim 19, Hoffberg further teaches providing a notification that specified future programming will contain at least one segment possessing the at least one distinguishing characteristic (col. 116, 1. 50 - col. 117, 1. 5).

As to claim 20, Hoffberg further teaches enhancing the program selection by inserting a segment possessing the distinguishing characteristic (col. 114, 11.12-23).

As to claims 21 and 22, Hoffberg further discloses the characteristic is derived from EPG information provided with the programming, including text (col. 150, U. 38-54).

As to claim 23, Hoffberg further discloses the claimed recorder for automatically recording the segment corresponding to a pre-selected viewer response (see portions of Hoffberg cited above).

As to claim 24, Hoffberg further discloses extracting information related to the program segment that corresponds to pre-selected viewer response from the programming, and automatically displaying the information (col. 124, 11. 45-57).

The limitations of claim 25 are encompassed within the portions of Zawilinski used to reject claim 1.

As to claim 26, Zawilinski further teaches the system can analyzed the galvanic skin response of a user. (Col. 6, Ln. 10-19).

As to claims 27 and 28, Zawilinski further teaches the system is capable of measuring the gaze of the viewer and the electrical activity in muscles, which relates to negative/positive facial expressions (i.e., visually observable response). (Col. 4, Ln. 13-31 and citations of Claim 1).

As to Claim 29, Zawilinski further teaches the system can track the direction of the user's gaze. (Col. 9, Ln. 50-64).

As to claim 30, Zawilinski further discloses the system is capable of analyzing the movement (i.e., changes in direction) of the viewers gaze and correlating the gaze direction with specific time periods (col. 9, 11. 50-64, col. 4, II. 42-47).

As to claim 36, Zawilinski and Hoffberg together disclose the method of claim 34, wherein an audible response is detected to infer the listener's mood. Official notice is taken that laughter is a well-known audible indication of mood. Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the system of Zawilinski and Hoffberg to include listener laughter as an audible response, thereby providing an addition indication of the listener's mood.

1. Claims 31 and 32 rejected under 35 U.S.C. 103(a) as being unpatentable over Zawilinski in view of Hoffberg in further view of Strubbe U.S. Patent No. 5,483,278 applied to claim 27 above, and further in view of Black et al. (US Patent No. 5,774,591).

Claim 31 recites the method of claim 27, wherein the visually observable response includes the frowning of the viewer's brow. As discussed above, the combined systems of Zawilinski, Hoffberg and Strubbe render obvious all limitations of Claim 27, and Zawilinski further teaches the system can analyzed

the electrical impulses in the user's muscles (i.e., which can related to facial expressions), but fails to specifically recite analyzing eyebrow furrowing.

However, within the same field of endeavor, Black et al disclose a similar system which analyzes changes in the viewer's eye brows. (Abstract; Col. 7, Ln. 1-45; Col. 26, Ln. 50-67; Col. 28, Ln. 28-62). Accordingly, it would have been obvious to one having ordinary skill in this art at the time of Applicant's invention to combine the systems of Zawilinski, Hoffberg, Strubbe and Black in order to provide a system capable of analyzing facial features, thereby affecting the operation of a computer system.

The limitations of claim 32 would be obvious variants of the limitations of claim 31. Since Black et al allow for the analysis of user eyebrows, analyzing the depth of movement in said eyebrows would only be an obvious variant. Accordingly, it would have been obvious to one having ordinary skill in this art at the time of Applicant's invention to modify the combined systems of Zawilinski, Hoffberg, Strubbe, and Black in order to provide a system which analyzes the depth of furrows, thus allowing for an analysis of the level of a viewer facial response (i.e., level of anger, surprise, understanding, etc).

2. Claims 33 and 38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zawilinski, in view of Hoffberg, as applied to claims 11 and 34 above, and further in

view of Bentolila et al. (US Pat. Pub. No. 2003/0101449).

Zawilinski, Hoffberg, and Strubbe together disclose the limitations of claims 11 and 34, but fail to discuss the limitations of claims 33 and 38. However, within the same field of endeavor, Bentolila et al disclose a similar system which utilizes a Hidden Markov technique. (Par. [0021]). Accordingly, it would have been obvious to one having ordinary skill in this art at the time of Applicant's invention to combine the systems of Zawilinski, Hoffberg and Bentolila in order to provide a system for user profile data prediction.

3. Claim 37 is rejected under 35 U.S.C. 103(a) as being unpatentable over Zawilinski in view of Hoffberg in view of Strubbe, as discussed under claim 34, and further in view of Shinohara. (US Pat. Pub. No. 2003/0005431).

Claim 37 recite the method of Claim 34, wherein the audibly observable response is the inflection (i.e., changes in pitch or tone) of a listener's vocalization, tending to indicate a question has been enunciated. As discussed above, the combined systems of Zawilinski and Hoffberg render obvious all limitations of Claim 34, but fail to specifically recite the limitations of Claim 37. However, within the same field of endeavor, Shinohara discloses a similar system which analyzes spectral data related to speech patterns, such as pitch, tone, frequency, etc., in order to identify a television viewer. (Par. [0026]). Accordingly, it would have been obvious to one having ordinary skill in this art at

the time of Applicant's invention to combine the systems of Zawilinski, Hoffberg, Strubbe and Shinohara in order to provide a system which is capable of analyzing various tones, pitches, etc. of a given voice.

***Conclusion***

4. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to SAHAR A. BAIG whose telephone number is (571)270-3005. The examiner can normally be reached on 4/5/9.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chris Kelley can be reached on 571-272-7331. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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